STEPHENSON, CARPENTER, CROUT & OLMSTED
Attorneys at Law
Bokum Building, 142 W. Palace Avenue
Post Office Box 669
Santa Fe, New Mexico 87504-0669

Telephone (505) 982-4611
Telecopier (505) 988-2987

Richard N. Carpenter
G. Stanley Crout
Charles D. Olmsted
Michael R. Comeau
Larry D. Maldegen
Sunny J. Nixon
William P. Templeman
C. Mott Woolley
Jon J. Indall
Stephen J. Lazar
Michael S. Yesley
Lindsay A. Lovejoy, Jr.
Patricia J. Turner
Thomas C. H. Mills
Joseph E. Manges
Candace Kern
Rebecca Dempsey
Paula A. Johnson

Donnan Stephenson
Of Counsel

December 6, 1984

HAND-DELIVERED

Mr. S. E. Reynolds
State Engineer
Office of State Engineer
Bataan Memorial Building
Santa Fe, New Mexico 87503

RE: In The Matter Of The Applications Of Plains Electric Generation and Transmission Cooperative, Inc. For Permit To Change Location Of Well And Place And Purpose Of Use And The Application For Permit To Change The Place And Purpose Of Use Of Underground Waters, Nos. B-49-BB into B-44 and B-45 and B-45-X; B-1003-AB into B-44, B-45, and B-45-X; and 1605, B-44, B-45 and B-45-X-D

Dear Mr. Reynolds:

Enclosed is the Brief of the Applicant, Plains Electric Generation and Transmission Cooperative, Inc. in the above-referenced case. Copies of this brief are being forwarded this day to the persons below noted as receiving a copy of this letter.

Very truly yours,

Sunny J. Nixon

Patricia J. Turner

SJN/tcg

Enclosure

cc: Mr. Eluid Martinez (w/encl.)
Mr. Eric Biggs (w/encl.)
Mr. Herbert A. Becker (w/encl.)

BEFORE THE STATE ENGINEER

STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATIONS OF PLAINS ELECTRIC GENERATION AND TRANSMISSION COOPERATIVE, INC. FOR PERMIT TO CHANGE LOCATION OF WELL AND PLACE AND PURPOSE OF USE AND THE APPLICATION FOR PERMIT TO CHANGE THE PLACE AND PURPOSE OF USE OF UNDERGROUND WATERS

Nos. B-49-BB into B-44 and B-45 and B-45-X;
B-1003-AB into B-44, B-45, and B-45-X;
and 1605, B-44, B-45 and B-45-X-D

BRIEF OF APPLICANT

PLAINS ELECTRIC GENERATION AND TRANSMISSION COOPERATIVE, INC.

STEPHENSON, CARPENTER, CROUT & OLMSTED
Sunny J. Nixon
Patricia J. Turner
P.O. Box 669
Santa Fe, New Mexico 87504-0669
(505) 982-4611

TABLE OF CONTENTS

INDEX OF AUTHORITIES

INDEX OF AUTHORITIES

ABBREVIATIONS AND SELECTED REFERENCES

Acre-feet per year	afy
Application to Change Location of Well and/or Place and Purpose of Use of Underground Waters or Application to Change Point of Diversion and/or Place and Method (Purpose) of Use of Underground Waters	Application to Transfer (unless otherwise noted)
Application for Permit to Appropriate Underground Water	Application to Appropriate
Change of Ownership of Water Right	Change of Ownership
Declaration of Owner of Underground Water Right	Declaration
North	N
Northwest	NW
Quarter (Section)	/4
Range	R
Section	§
Southeast	SE
Township	T
West	W

The terms "filings" or "filed", unless otherwise noted, refer to matters filed in the State Engineer's Office ("SEO"). The terms "file no." or "designated file no." refer to the designated file number of the SEO.

STATEMENT OF CASE

This matter involves two Applications for Permit to Change Location of Well and Place and Purpose of Use of Underground Waters and an Application for Permit to Change Place and Purpose of Use of Underground Waters ("Applications" or "Applications to Transfer") filed by Plains Electric Generation and Transmission Cooperative, Inc. ("Plains"). The file numbers of these Applications designated by the New Mexico State Engineer's Office ("SEO") are: B-49-BB into B-44, B-45 and B-45-X; B-1003-AB into B-44, B-45, and B-45-X; and 1605, B-44, B-45 and B-45-X-D. These file numbers, or abbreviated references to them, will be utilized in this brief to refer to the particular water right sought to be transferred ("Water Right").

The Bureau of Indian Affairs on behalf of the Pueblos of Laguna and Acoma appeared in this matter as a protestant to the Applications ("Protestant").

STATEMENT OF PROCEEDINGS

The Applications were filed in the SEO pursuant to §72-12-7 NMSA 1978, and §§2-3 and 2-5 of the Rules and Regulations governing Drilling of Wells and Appropriation and Use of Ground Water in New Mexico ("SEO Rules").[1] A Change of Ownership, duly signed and verified by the predecessor owner(s) of record, was filed with the SEO for each Water Right sought for transfer, whereby the change of ownership of record in the SEO was made to Plains.[2] After filing, each Application to Transfer was duly published once a week for three consecutive weeks, as required by §§72-12-7, *supra*, and 72-12-3, NMSA 1978 (1983 Supp.). In the case of each of the Applications, publication was made in *The Grants Daily Beacon*.[3]

Each of the Applications was protested by the Bureau of Indian Affairs on behalf of the Pueblos of Acoma and Laguna.[4] Thereafter, Plains requested a hearing on each of the Applications.[5] The State Engineer issued notices that hearing deposits were required to be made by Plains and the Protestant

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1. The Applications were filed as follows: B-49-BB and B-1003-AB on November 3, 1983; and 1605, B-44, B-45 and B-45-X-D on June 28, 1983.

2. Changes of Ownership were filed as follows: B-49-BB on October 24, 1983; B-1003-AB on October 19, 1983; and 1605, B-44, B-45 and B-45-X-D on June 9, 1983.

3. As shown on the Proof of Publications filed in the SEO, publications of the Applications were made on the following dates: B-49-BB on November 14, 21 and 28, 1983; B-1003-AB on November 14, 21 and 28, 1983; and 1605, B-44, B-45 and B-45-X-D on July 22, July 29 and August 5, 1983.

4. The protests of the Bureau of Indian Affairs on behalf of the Pueblos of Acoma and Laguna were received in the SEO on the following dates: B-49-BB on December 8, 1983; B-1003-AB on December 8, 1983; and 1605, B-44, B-45 and B-45-X-D on August 9, 1983.

5. Plains' Requests for Hearing, on the Applications were made by letter to the SEO dated as follows: B-49-BB on January 11, 1984; B-1003-AB on January 13, 1984; and 1605, B-44, B-45 and B-45-X-D on October 20, 1983.

by the close of business on: January 27, 1984 for 1605, B-44, B-45 and B-45-X-D; and June 29, 1984 for B-49-BB and B-1003-AB. Plains' hearing deposit was transmitted to the SEO on: January 13, 1984 for 1605, B-44, B-45 and B-45-X-D; June 15, 1984 for B-49-BB and June 19, 1984 for B-1003-AB.

A Notice of Hearing issued by the State Engineer, dated August 31, 1984, scheduled a hearing on the Applications for October 30, 1984. This hearing was held as scheduled on October 30, 1984, with Eluid Martinez as the designated Hearing Examiner ("Hearing Examiner"). Hearing Examiner Martinez, at the close of the hearing, scheduled briefs by the parties to be filed ten days following receipt of the written transcript. The Protestant requested a week's extension for filing briefs.

INTRODUCTION

Plains has filed its Applications to Transfer under §72-12-7, *supra*. This statute allows the location of well and/or use of a water right to be changed upon application to the State Engineer by the water right owner and upon a showing that the change will not impair existing water rights. Plains' presentation at the hearing showed that its requested transfers will not impair existing rights; this issue and evidence adduced at the hearing are covered in Point II of this brief. Point I is devoted to discussion of the law governing the Applications to Transfer. First, however, the Applications to Transfer are summarized.

Application to Transfer No. B-49-BB into B-44, B-45 and B-45-X

Plains seeks to transfer a water right in the amount of 38.25 afy (consumptive) described in file No. B-49-BB and related files (hereinafter sometimes referred to for ease of reference as "the B-49-BB Water Right" or, alternatively, "the 38.25 afy (consumptive) Water Right"). A Change of Ownership of this 38.25 afy (consumptive) Water Right, executed and verified by the predecessor owners of record, was filed in the SEO on October 24, 1983. This Change of Ownership reflects that Plains is the owner of record in the SEO of 38.25 afy (consumptive) or 75 afy (diversion) appurtenant to 25 acres of land in part of the $SW\frac{1}{4}$ of Section 5, T.11N., R.10W.[6] As the owner of record in the SEO files of this 38.25 afy (consumptive), Plains filed its Application to Transfer the B-49-BB Water Right on November 3, 1983. The points of diversion to which transfer is sought are Wells B-44 (situated in the $SW\frac{1}{4}SW\frac{1}{4}SW\frac{1}{4}$ of Section 27) and B-45 and B-45-X (situated in the $SE\frac{1}{4}SW\frac{1}{4}SE\frac{1}{4}$ of Section 29) all in T.12N., R.10W. The existing point of diver-

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6. Retained by the immediate predecessor owners of record, were water rights appurtenant to 26 acres according to SEO File No. B-49-B.

sion is Well B-49-B situated in the NE¼SW¼ of Section 5, T.11N., R.10W. Plains seeks to transfer the place of use from part of the SW¼ of Section 5, T.11N., R.10W. to Section 26, T.14N., R.12W. and vicinity and the purpose of use from irrigation to industrial. A plat, filed with the SEO on October 24, 1984, identifies the "move-from" acreage under Application B-49-BB, consisting of 25 acres and composed of 3 tracts, numbered 1, 2 and 3. Well No. B-49-B will not be plugged, due to the continued use of remaining rights, not part of the 38.25 afy (consumptive) Water Right sought for transfer. (See Application For Transfer and Tr. 47).

Application to Transfer No. B-1003-AB into B-44, B-45 and B-45-X

Plains requests transfer of a water right consisting of 24.975 afy (consumptive) described in File No. B-1003-AB and related files (hereinafter sometimes referenced as "the B-1003-AB Water Right or, alternatively, the 24.975 afy (consumptive) Water Right"). A Change of Ownership of this B-1003-AB Water Right, executed and verified by the immediate predecessor owner of record in the SEO, was filed with the SEO on October 19, 1983. This Change of Ownership shows Plains to be the owner of record of 87.975 (consumptive) or 172.38 afy (diversion) appurtenant to 57.5 acres in part of the S½NE¼ of Section 30, T.12N., R.10W. As the owner of record in the SEO, Plains filed two separate Applications to Transfer on November 3, 1983. One, the subject of this hearing, applies for transfer of 24.975 afy (consumptive) appurtenant to 16.32 acres in part of the S½NE¼ of Section 30, T.12N., R.10W. The other application to transfer, is pending hearing before the State Engineer and seeks the transfer of 63 afy (consumptive) water right appurtenant to 41.18 acres in part of the S½NE¼ of the same Section 30.[7]

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7. The entire Water Right in File No. B-1003 has been conveyed of record in the SEO leaving only water rights, appurtenant to 6.7 acres in B-1003 Enlgd. in the immediate predecessor owner of record. (See also Tr. 47).

Plains' immediate Application to Transfer the B-1003-AB Water Right seeks to transfer the 24.975 afy (consumptive) to points of diversion designated Wells B-44 (situated in the $SW\frac{1}{4}SW\frac{1}{4}SW\frac{1}{4}$ of Section 27) and B-45 and B-45-X (situated in the $SE\frac{1}{4}SW\frac{1}{4}SE\frac{1}{4}$ of Section 29), all in T.12N., R.10W. The existing point of diversion lies in the $SW\frac{1}{4}SW\frac{1}{4}NE\frac{1}{4}$ of Section 30, T.12N., R.10W., as reflected in a permit issued by the SEO on June 24, 1983 ("June 24, 1983 Permit"). Plains seeks to transfer the place of use from part of the $S\frac{1}{2}NE\frac{1}{4}$ (16.32 acres) of Section 30, T.12N., R.10W. to Section 26, T.14N., R.12W. and vicinity and the purpose of use from irrigation to industrial. A plat, filed on October 24, 1984 in the SEO, consists of Hydrographic Survey Map 12.10.30 with the move-from acres under Application B-1003-AB imposed on it. The plat and accompanying letter show the 16.32 move-from acreage as the east 16.32 acres of the 28.2 acre tract (Tract 30D).

Application To Transfer No. 1605, B-44, B-45 and B-45-X-D

Plains has applied for transfer of a water right of 180.54 afy (consumptive) described in File No. 1605, B-44, B-45 and B-45-X-D and related files (sometimes hereinafter referred to for ease of reference as the 1605, B-44, B-45 and B-45-X-D Water Right or, alternatively, the 180.54 afy (consumptive) Water Right). For this Water Right, a Change of Ownership executed and verified by the immediate predecessor owner of record, was filed with the SEO on June 9, 1983. This Change of Ownership reflects record ownership in Plains of 354 afy (diversion) appurtenant to 118 acres in the $W\frac{1}{2}W\frac{1}{2}$ of Section 3, T.11N., R.10W.[8] As the owner of record in the SEO of the 1605, B-44, B-45 and B-45-X-D Water Right, Plains filed its Application to Transfer on June 28, 1983. Plains seeks only a change of place and

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8. This Change of Ownership transferred of record in the SEO the entire remaining water rights in the $W\frac{1}{2}W\frac{1}{2}$ of Section 3.

purpose of use of underground waters. The existing place of use is described in the Application To Transfer as 118 acres in the $W\frac{1}{2}W\frac{1}{2}$ of Section 3, T.11N., R.10W. and the existing purpose of use is agricultural. The proposed place of use is Section 26, T.14N., R.12W. and vicinity, and the proposed purpose of use is consumptive-industrial. The points of diversion will remain the same -- wells B-44 (situated in the $SW\frac{1}{4}SW\frac{1}{4}SW\frac{1}{4}$ of Section 27) and B-45 and B-45-X (situated in the $SE\frac{1}{4}SW\frac{1}{4}SE\frac{1}{4}$ of Section 29) all in T.12N., R.10W. A plat, filed on October 24, 1984 in the SEO, consists of Hydrographic Survey Map 11.10.3 with the move-from acreage of 118 acres under Application No. 1605, B-44, B-45 and B-45-X-D imposed upon it.

In sum, Plains has applied to transfer 243.76 afy (consumptive) from existing locations and points of diversion to its applied for place of use in Section 26, T.14N., R.12W. and vicinity and to points of diversion described as Wells B-44, B-45 and B-45-X. Moreover, Plains seeks to change the purpose of use from existing uses (all irrigation) to a consumptive-industrial use for its Plains Escalante Generating Station. With the Applications to Transfer in mind, the law on the only issue raised by an Application to Transfer is considered.

POINT 1

THE ONLY ISSUE RAISED BY AN APPLICATION FOR PERMIT TO CHANGE LOCATION OF WELL AND/OR PLACE AND PURPOSE OF USE OF A WATER RIGHT IS WHETHER THE CHANGE WILL IMPAIR EXISTING RIGHTS

The right to change the point of diversion and/or place and purpose of use of water is an inherent property right incident to the ownership of water rights. *Clodfelter v. Reynolds,* 68 N.M. 61, 358 P.2d 626 (1961). It is a right, however, subject to the conditions that it cannot impair other existing rights and may be enjoyed only in accordance with statutory procedure. *Langenegger v. Carlsbad Irrigation District,* 82 N.M. 416, 483 P.2d 297 (1971); *Durand v. Reynolds*, 75 N.M. 497, 406 P.2d 817 (1965). Plains has complied with the statutory and regulatory procedure prescribed for the Applications in §72-12-7, *supra* and SEO Rules, §2-3 and §2-5. (See Statement of Proceedings, *supra.*)

The burden of proof is on the applicant to show that such a change will not impair existing rights. *Heine v. Reynolds,* 69 N.M. 398, 367 P.2d 708 (1962); *Clodfelter v. Reynolds, supra; Spencer v. Bliss,* 60 N.M. 16, 287 P.2d 221 (1955).

An applicant for such a change has no burden to prove that unappropriated waters are available as is required for a new appropriation; the sole issue upon which an applicant must meet its burden of proof is whether the proposed transfer would impair the rights of any existing user. *Clodfelter v. Reynolds, supra; Public Service Company v. Reynolds,* 68 N.M. 54, 358 P.2d 621 (1960).

The issue raised by an Application to Transfer is whether the change would impair the existing rights of others, §72-12-7 *supra; City of Roswell v. Reynolds,* 86 N.M. 249, 522 P.2d, 796 (1974); *Heine v. Reynolds, supra;* See *In* re *Hobson,* 64 N.M. 462, 330 P.2d 547 (1958).

Questioning was allowed and evidence was admitted in the hearing, over the objection of Plains, as to the historical use of the water rights sought to be transferred in this hearing. Such questioning and evidence is irrelevant to the issues raised by the Applications.

The historical use of a water right sought to be transferred could only be relevant in a transfer proceeding if the issues of forfeiture, abandonment or adjudication of the water rights were involved. They are not involved in water right transfers. *Durand v. Reynolds, supra,* 406 P.2d at 819. While Protestant maintained it "was not interested in forfeiture" (Tr. 35), Protestant persisted in direct and cross-examination to pose questions on historical use.[9] For whatever the reason Protestant sought to elicit evidence on historical use, it is clear forfeiture and abandonment are not issues in this hearing. Prior to June 1, 1965, water rights could be forfeited by operation of law if, for a continuous four-year period, the owner failed to apply them to beneficial use §72-12-8 NMSA 1978 (1983 Supp.). After June 1, 1965, water rights could not be forfeited in the absence of a notice and declaration of non-user given by the State Engineer after a four-year, continuous non-use period and a continued failure for one year thereafter to apply the rights to beneficial use §72-12-8, *supra.* Partial forfeiture or partial abandonment of a water right under the pre-June 1, 1965 forfeiture provision is not possible. *State ex rel Reynolds v. Mears,* 86 N.M. 510, 525 P.2d 870 (1974). *Pro tanto* forfeiture, after June 1, 1965, is predicated upon a notice and declaration of non-user issuance by the State Engineer to the water right owner *State ex rel Reynolds v. Mears, supra.* Notwithstanding that forfeiture of a water

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9. In fact, the Protestant conceded:

> "The United States is fully cognizant of the fact that this Hearing Officer does not have any authority whatsoever to determine whether or not Plains' water rights are valid, and we would not ask that the Hearing Examiner make any determination along that line." (Tr. 39).

right is not at issue in this proceeding, the records of the SEO on the water rights sought to be transferred in the Applications reflect that prior to June 1, 1965, no continuous four-year period of non-use occurred and that after June 1, 1965, the State Engineer has not issued a notice and a declaration of non-user, required by §72-12-8, *supra* on these rights. (Admission by State Engineer's staff to Applicant's Request for Admissions, October 16, 1984). No evidence was adduced at the hearing to the contrary.

Abandonment of water rights requires proof of an intention to abandon. *State ex rel v. South Springs Co.*, 80 N.M. 144, 452 P.2d 478 (1969). No evidence was even offered at the hearing to attempt to meet this burden of proof imposed upon an advocate of abandonment.

Moreover, the State Engineer can not adjudicate a water right; such power and authority is granted solely to the courts. *State ex rel Reynolds v. Lewis*, 84 N.M. 768, 508 P.2d 577 (1973).

Thus, any attempt in a transfer proceeding, such as the instant case to reduce, nullify or otherwise limit the water right sought to be transferred, except for conditions placed upon the permit granting the transfer to prevent impairment, if impairment is found to result from the transfer, *State ex rel Reynolds v. Rio Rancho Estates, Inc.*, 95 N.M. 560, 624 P.2d 502 (1981), would be a forfeiture, abandonment or adjudication ruling. Any such ruling is beyond the issues of the proceeding and beyond the authority of the State Engineer.

Plains, as to the existence of the water rights sought to be transferred in the hearing, requested that Administrative Notice of pertinent records of the SEO be taken. (Tr. 15). Plains' request was granted. (Tr. 16). The water rights sought to be transferred by Plains are a matter of record in the SEO; such records are evidence in this hearing, reflecting, as relevant, the nature, initiation, location, amount and other relevant matters related to these

rights *Public Service Co. v. Reynolds, supra.* (See §II(A), *infra*).

In summary, §72-12-7, *supra*, provides for the transfer of a water right. Once a water right exists, and is confirmed either by Declaration, by permit or by adjudication, it continues to exist, absent forfeiture, abandonment or subsequent adjudication. The issues of forfeiture, abandonment or adjudication are not involved in this proceeding. The existence of the water rights sought to be transferred are evidenced by the files and records of the SEO of which administrative notice has been taken in this hearing. (Tr. 16).

The issue is only whether the transfer of these water rights will impair existing rights.

POINT II

THE GRANTING OF PLAINS' APPLICATIONS TO CHANGE THE LOCATION OF WELL AND/OR PLACE AND PURPOSE OF USE WILL NOT IMPAIR EXISTING RIGHTS.

A. Pertinent Historical Records Of The Water Rights Sought To Be Transferred.

An historical chronology of the initiation, location, amount, ownership and location of transfers, and uses of the water rights which Plains seeks to transfer by its Applications in this proceeding may prove helpful. This chronology is derived from the records and files of the SEO of which the Hearing Examiner has taken administrative notice. (Tr. 16). All of the water rights sought to be transferred in this proceeding are ground-water rights. These ground-water rights were identified as supplementing surface water rights. (Tr. 18).

Water Right File No. B-49-BB

In connection with the B-49-BB Water Right, a verified Declaration of Owner of Underground Water Right No. B-49 was filed with the SEO bearing a date of receipt of January 24, 1957. This Declaration reflects that 55 acres within the $N\frac{1}{2}SW\frac{1}{4}$ of Section 5, and 65 acres in the $S\frac{1}{2}SW\frac{1}{4}$ of Section, T.11N., R.10W. were irrigated with the declared water right, by which 6 acre feet per acre was appropriated and beneficially used for irrigation on a total of 449 acres described in the Declaration. Further, the Declaration states the well was drilled in 1951 and "was drilled to supplement Bluewater-Toltec Irrigation District surface water rights on the above described lands."[10] The Declarant was John M. Evans and the owner was shown as Ellington Produce Co. and J. M. and E. Marie Evans.

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10. This statement in the Declaration corresponds to the Bluewater-Toltec Irrigation District ("BTID") License issued by the SEO October 2, 1951 ("License"), with a priority date of November 7, 1923, No. 1605, reflecting 55 acres of land in the $N\frac{1}{2}SW\frac{1}{4}$ and 65 acres in the $S\frac{1}{2}SW\frac{1}{4}$ of Section 5, T.11N., R.10W. receiving water under the total amount of licensed water rights.

After the Declaration, the following Changes or Transfers of Ownership covering the B-49-BB Water Right were filed in the SEO:

> Warranty Deed dated September 12, 1963 from Ellington Produce Co., a co-partnership composed of R. B. Ellington and F. R. Ellington conveying an undivided one-half interest of the W½ of Section 5, T.11N., R.10W. (and, therefore, the water rights appurtenant to such lands, which were not excluded) to John M. Evans Produce Company, a co-partnership composed of John M. Evans and E. Marie Evans.
>
> Change of Ownership from Evans Produce Company, a co-partnership composed of John M. Evans and E. Marie Evans and John M. Evans and E. Marie Evans, individually to Billy G. Thornton and Dorthy Thornton, his wife, and Dale L. Thornton and Margaret Ann Thornton, his wife, executed and verified on June 10, 1974 and filed with the State Engineer's Office on or about January 18, 1976.
>
> Change of Ownership from Billy G. Thornton and Dorthy Thornton, his wife, and Dale L. Thornton and Margaret Ann Thornton, his wife, to Plains, executed and verified on October 17 and 13, 1983, respectively, and filed in the State Engineer's Office on October 24, 1983.

Affidavits in the SEO files confirm that the 25 acres, to which the 38.25 afy (consumptive) Water Right sought for transfer is appurtenant, were farmed from 1942 through 1966 (affidavits of Lester Osborne corroborated by affidavits of Vidal from 1950-1965). Consequently, these records establish no continuous four year period of non-use between the date the well was drilled (1951) and June 1, 1965. Lester Osborne's familiarity with the subject tracts in the SW¼ of Section 5, T.11N., R.10W. and the irrigation practices thereon is readily apparent from his statement in the affidavit:

> "I have lived in the Grants-Milan area from 1942 to the present. I was farm manager or superintendent of many area farm sites from 1942 until my retirement in 1979. I observed who was farming each field in the irrigation district during these years."

Based on his familiarity with the subject tracts in the SW¼ of Section 5, Mr. Osborne states in his affidavit:

> "The farm site listed above was routinely farmed from 1942, when I came into the area, through 1966. There was no consecutive four year period that this property was not farmed. If water from Bluewater Lake was not available, the irrigation well used for water to irrigate the above described farm was located also in Section 5, in the NE Corner."

Likewise, Vidal Mirabal's familiarity with the irrigation practices on the subject tracts in the SW¼ of Section 5 is established from his statement in his affidavit:

> "I am a life-time resident of this area (1944-1974). My land was adjacent to the property described above."

Mr. Mirabal attests:

> "John Evans bought the property described around 1950. He formed Evans Produce Co. He farmed the property described above and other property adjacent during 1950-1965. His practice was crop rotation. At no time was four consecutive years passed without irrigation on this property."

According to the affidavit of October 18, 1984, of Billy G. Thornton, also filed in the SEO, the same 25 acres composing the subject tracts have been farmed every year from 1973 through 1984. Mr. Thornton's affidavit confirms that he has been "on site annually". Use of water on this land is further apparent from aerial photographs of August 8, 1956, retained in the SEO. Irrigation and farming on these 25 acres (as part of a larger tract of land) since 1956 is likewise confirmed by memoranda of the State Engineer's staff dated December 20, 1973 and March 4, 1974. In part, these memoranda state: "To the best of the knowledge in this office the remainder of the irrigated land has been farmed and irrigated periodically with no four-year lapse since

1956." A field check on January 31, 1974 by the SEO verified that the land (104 acres) "had been irrigated." (See Memorandum of March 4, 1974 from K. E. Ray of the State Engineer's Office). An accompanying plat reflects the referenced "land" includes the 25 acres to which the 38.25 afy (consumptive) Water Right is appurtenant.

In turn, the SEO approved Permit No. B-49-B on March 12, 1974, which included the subject 38.25 afy (consumptive) Water Right. That Permit was issued pursuant to an Application for Permit to Change the Location of Well from Wells B-49, B-50 and B-51 to B-49-B and entitled the appropriation of three acre feet per acre of water per annum for 101 acres in the SW¼ of Section 5, T.11N., R.10W., which encompasses the subject 25 acres.[11] Thus, the 38.25 afy (consumptive) Water Right has been permitted.

Water Right File No. B-1003-AB

A Declaration of Owner of Underground Water Right No. B-1003, by Patrick E. Simpson, Declarant, was verified on January 27, 1983 and filed with the SEO on January 28, 1983. This Declaration stated that the quantity of water appropriated and beneficially used was 3 acre feet per acre for irrigation or agricultural purposes and that the water was first applied to beneficial use in 1945, and, since that time, has been used fully and continuously on all of the described lands for the described purposes. The well from which water was derived is shown as drilled in 1945. The acreage described as irrigated is 64.83 acres situated in part of the S½NE¼ of Section 30, T.12N., R.10W. The same Declarant verified and filed with the SEO a Declaration No. B-1003 Amended bearing a receipt stamp of February 20,

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11. The permit required proof of completion of the well to be filed on or before March 15, 1976. Three extensions to drill the well were granted, the last of which allowed completion of the well to be filed by March 15, 1979. Proof of completion was filed on February 23, 1979, documenting drilling of the well on July 28, 1978.

1983. This Amended Declaration clarifies that 57.5 acres (of the total 64.2 acres irrigated) lies in the $S\frac{1}{2}NE\frac{1}{4}$ of Section 30.

Only one Change of Ownership has been filed since the Declaration, namely, a Change of Ownership to Plains from the Declarant and his wife, properly verified, stating that all the Declarant's interest in the water right in file No. B-1003 in the amount of 87.975 afy (consumptive) appurtenant to 57.5 acres has been conveyed to Plains.

Affidavits on file with the SEO attest to application of water on tracts of land including designated Tract 30D shown on the SEO Hydrographic Survey Map 12.10.30, which includes the subject 16.32 acres. Each of the affidavits discloses personal familiarity with the application of water and irrigation practices on the subject land, which range from personally irrigating, observing irrigation and hauling vegetables raised on the lands or other personal familiarity. The years stated for application of water and the affiant making the statement are summarized as follows:

YEAR	AFFIANT
1945-56	R. L. Parsons H. H. Simpson
1945-47	Tom Simpson
1949-56	Tom Simpson
1956	Roy Chapman Mrs. D. C. Powell Eddie Chavez Lester Osborne D. C. Powell John Platters John Ramone
1959	Roy Chapman Mrs. D. C. Powell Eddie Chavez Lester Osborne D. C. Powell

1962	Roy Chapman Mrs. D. C. Powell Eddie Chavez Lester Osborne D. C. Powell H. Mescale
1964	H. Mescale Roy Chapman Mrs. D. C. Powell Eddie Chavez Lester Osborne D. C. Powell

During the above years the affiants, almost without exception for each of the years, list the source of water applied as deriving from well B-2 or well B-6. Well B-2 is located in the north central portion of the NW¼SE¼ of Section 30, T.12N., R.10W., and, since 1945 until 1977, was used as a supplemental ground-water supply for lands of the Declarant. During 1956, 1964, 1965 and 1971, the subject lands were irrigated entirely from Well B-2. (See Findings ##3, 6 and 9 of Findings and Order of State Engineer of June 23, 1983 in the Matter of Application of Patrick E. Simpson No. B-1003 To Change Location of Well in the Bluewater Basin ("June 23, 1983 Order"). Well B-6, referenced in some of the affidavits, was "in actuality B-2" because of "an error on the plat submitted with the affidavits" according to a memorandum of Ronald J. McBrayer dated November 15, 1983 on file in the SEO.

The September 1958 Hydrographic Survey 12.10.30 "reflects that a total of 57.5 acres have been irrigated within the land holdings of the applicant within the S½NE¼ of Section 30, T.12N., R.10W." and "the field checks from which Map Sheet No. 12.10.30 was prepared were performed during the fall of 1956." (Findings No. 12-13 of the June 23, 1983 Order) This hydrographic survey is corroborated by an August 8, 1956 aerial photo in the SEO showing the 57.5 acres to be cultivated and cropped.

On February 4, 1983, the Declarant filed with the SEO Application No. B-1003 for Permit to Change Location of Well from B-2 to a well to be located

in S½NE¼ of Section 30. (See Application No. B-1003 and ¶#3 of June 23, 1983 Order) Following protest and hearing on this application, the State Engineer entered the June 23, 1983 Order approving Application B-1003, subject to certain conditions, two of which limited the land to be irrigated to 57.5 acres and the appropriation of surface and ground-water to not more than 3 acre-feet per acre per annum.[12] The permit B-1003 was issued June 24, 1983. Thus, the B-1003 Water Right has been permitted; the subject 24.970 afy (consumptive) Water Right was part of the B-1003 permit.

Water Right File No. 1605, B-44, B-45 and B-45-X-D

Concerning the 180.54 afy (consumptive) Water Right, verified Declarations of Owner of Underground Water Right Nos. B-44, B-45 and B-45-X, on their face, reflect receipt by the SEO on October 23, 1961. The Declarant of all three Declarations was A. R. Card. Declaration No. 44 states that the well was drilled in 1944 and was located in the SW¼SW¼SW¼ of Section 27. Declaration Nos. 45 and 45-X recite Well B-45 was drilled in 1944 and 1947 and Well 45-X was drilled in 1944. Each of the Declarations states that 136 acres in the W½W½ of Section 3, T.11N., R.10W. were irrigated with the water right, and that the quantity of water appropriated and beneficially used, was 3 acre feet per annum for irrigation purposes.[13] An additional Declaration of Owner of Underground Water Right was received by the SEO on June 15, 1983. This Declaration declares that:

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12. The June 23, 1983 Order recites that the BTID License No. 1605 allows 16,464.18 afy for the purpose of irrigating 5,488.06 acres of land. This license shows 79 acres, of the 5,488.06 acres, to be situated within the S½NE¼ of Section 30, T.12N., R.10W. (80 acres), in which the 57.5 acres of the Declarant are situated, and which, in turn contain the subject 16.32 acres.

13. The 136 acres corresponds to the acreage listed in the BTID License No. 1605 for the W½W½ of Section 3, T.11N., R.10W., which granted the right to appropriate water for these acres (listed as the SW¼NW¼, NW¼NW¼, SW¼SW¼ and NW¼SW¼).

> "This declaration is being made to declare the 2 acres which appear on State Engineer Hydrographic survey and which were not included in original declaration. Original declaration was in error and should have read 138 acres in Section 3 as irrigated instead of 136 acres which were actually declared."

This later Declaration is by Toby Michael, Declarant. This Declaration states that the quantity of water appropriated and beneficially used was 3 AF/ac/annum for irrigation to irrigate 2 acres in the $W\frac{1}{2}W\frac{1}{2}$ of Section 3, T.11N., R.10W. Further, the Declaration recites the well was drilled in 1947 and the water was first applied to beneficial use in approximately 1947 and since that time has been used fully and continuously on those lands.

Changes of Ownership filed in the SEO are in order changing record ownership from the Declarants to Plains, as follows:

> Change of Ownership with attached Warranty Deed filed November 22, 1977 from Stanley and Card to Toby Michael stating that all water rights in File No. 1605, B-44, B-45 and B-45-X were conveyed to Toby Michael, which includes the water rights appurtenant to 136 acres of land in the $W\frac{1}{2}W\frac{1}{2}$ of Section 3, T.11N., R.10W. (*See also* Memorandum in State Engineer's Office files of September 6, 1983, from J. T. Smith to Brad Compton.)
>
> Change of Ownership dated June 9, 1983 from Toby Michael and Josephine Michael to Plains of all of the water right appurtenant to 138 [sic 118] acres in the $W\frac{1}{2}W\frac{1}{2}$ of Section 3, T.11N., R.10W., totalling 354 afy (diversion).

Affidavits filed in the SEO and spanning the years from 1956 (the year the Bluewater Underground Basin was declared by the State Engineer) to 1965 show no continuous four-year period of non-use. Each of the affidavits show personal familiarity by the affiants of the application of water to the $W\frac{1}{2}W\frac{1}{2}$ of

Section 3. Eddie Chavez attested his personal knowledge of the subject land arose from the fact that he worked the Stanley and Card farms from 1945 to 1961 and was general foreman in the 1950's and early 1960's. He states he was "involved in all the planting, irrigating and harvesting of all their crops on their property in this area." He affirmed that water from Well B-44 had been applied to the tracts of the subject land in 1956, 1957, 1958, 1959 and 1960. James Elkin's affidavit describes his familiarity with the subject land evolving from his lease of the land for grazing; Mr. Elkins attests to "grain growing in the W½ of the W½ of Section 3, T.11 North, R.10 West." In his affidavit, Mr. Elkins attests to the fact that water from Well B-44 and the BTID was applied to the subject land in 1961 and 1962. Next, the affidavit of James B. Latham explains that in working for the Ellsworth Bros., who had leased from Stanley and Card, "we planted oats [in] the W½ of the W½ of Sec. 3 the years 1962-1964." During that period Mr. Latham attests that water was applied to the subject land from well B-44 and the BTID for the years 1962, 1963 and 1964. Finally, Toby Michael's affidavit describes his familiarity with the irrigation practices on the subject land during the years 1975 through 1977 as:

> "I had purchased the property from Ralph Card and decided to put it in crops. We irrigated in 1975, 1976 and 1977. We irrigated from Well B-44 and from the works of the Bluewater Toltec irrigation district."

Mr. Michael attests that water was applied to the subject land from Well B-44 and from the BTID for the years 1975-1977.

Further, both the State Engineer 1956 Hydrographic Survey Sheet 11.10.3 and the August 8, 1956 aerial photos confirm that the subject land was cultivated and cropped in 1956.

Applications for Extension of Time to Apply Water to Beneficial Use were granted by the SEO for the period 1970-1977, for water rights in File Nos.

B-43, B-44, B-45 and B-45-X, as revealed by copies filed in the SEO. These Applications show either that some acreage was irrigated with the B-43, B-44, B-45 and B-45-X Water Right or that either some surface water or ground-water was used during this 1970-1977 period.

B. The Water Rights Sought To Be Transferred Have Been Declared And Two Have Been Confirmed By Permits

The foregoing chronology establishes that each of the Water Rights sought for transfer has been declared; additionally, two have been permitted. In summary:

-- The B-49-BB Water Right is a declared water right for irrigation purposes including, within the water right originally declared, the 38.25 afy (consumptive) sought for transfer here, appurtenant to 25 acres in part of the $SW\frac{1}{4}$ of Section 5, T.11N., R.10W. The B-49-BB Water Right is also a permitted water right, being part of Permit No. B-49-B approved by the SEO on March 12, 1974. This permit entitled the appropriation of three acre feet per acre of water for 101 acres, which encompasses the subject 25 acres.

-- The B-1003-AB Water Right is a declared water right for irrigation purposes including, within the water right originally declared, the 24.975 afy (consumptive) sought for transfer here, appurtenant to 16.32 acres within part of the $S\frac{1}{2}NE\frac{1}{4}$ of Section 30, T.12N., R.10W. The B-1003-AB Water Right is also a permitted water right, as part of Permit No. B-1003 approved by the SEO on June 24, 1983. This permit authorizes appropriation of surface and ground-water of not more than three acre feet per acre per annum for irrigation of 57.5 acres, which includes the subject 16.32 acres.

-- The 1605, B-44, B-45 and B-45-X-D Water Right is a declared water right for irrigation purposes including, within the water right

originally declared, the 180 afy (consumptive) sought for transfer here, appurtenant to 118 acres in part of the $W\frac{1}{2}W\frac{1}{2}$ of Section 3, T.11N., R.10 W.

As to the permitted rights, the permit is a recognition of the existence of the water right. In *Harkey v. Smith,* 31 N.M. 521, 247 P. 550 (1926), the Supreme Court stated at p. 552:

> "... the right of the water user is measured by permit of the state engineer or the decree of the court. It is the nature of grant which prevents all future controversy as to the extent and character of the right."

See also *W.S. Ranch Co. v. Kaiser Steel Corporation,* 79 N.M. 65, 439 P.2d 714 (1968).

Accordingly, the permitted B-49-BB and B-1003-AB Water Rights are recognized and confirmed by permit of the SEO.

As to the declared water rights, B-49-BB, B-1003-AB and 1605, B-44, B-45 and B-45-X-D ("declared water rights"), the Declarations confirm these water rights. With respect to declared water rights, §72-12-5 NMSA 1978 provides in pertinent part:

> "(A)ny person, firm or corporation claiming to be the owner of a vested water right from any of the underground sources in this act [72-12-1 to 72-12-10 NMSA 1978] described, by application of water therefrom to beneficial use, may make and file in the office of the State Engineer a declaration...setting forth the beneficial use to which said water has been applied, the date of first application to beneficial use, the continuity thereof, the location of the well and if such water has been used for irrigation purposes, the description of the land upon which such water has been so used and the name of the owner thereof...Such declarations shall be verified, but if the declarant cannot verify the same of his own personal knowledge he may do so upon information and belief. Such declarations *so filed* shall be recorded at length in the office of the state engineer...such records or copies thereof officially certified shall be *prima facie evidence of the truth of their contents.*" (emphasis supplied)

Each of the declared water rights are verified and of record by Declaration filed in the SEO. Accordingly, the Declarations are *prima facie* evidence

of the truth of their contents. Being *prima facie*, the Declarations of these rights are evidence sufficient in law to raise a presumption of fact or establish the fact in question, unless rebutted. *Duke City Lumber v. N.M. Env. Improvement Board*, 95 N.M. 401, 622 P.2d 709 (1980), *cert. denied*, (1981). And, a presumption of fact set forth by declarations under §72-12-5, *supra*, imposes upon an adversary, the burden of going forward with evidence to rebut the presumption *Rule 301, New Mexico Rules of Evidence*. The statements contained in the Declarations of these rights were not rebutted at the hearing. In fact, no contrary evidence was even offered by Protestant. Having remained unrebutted, the contents of these Declarations are, accordingly, established as fact in this proceeding. In factual terms, this means that as to the declared rights, the beneficial use of each right, the date of each right's first application to beneficial use, the continuity thereof, the location of the well of each of the rights and the description and owner of the lands irrigated with these water rights are established as fact. Accordingly, the declared rights, as declared and evidenced by the records and files of the SEO, are existing rights.

Both the permitted and declared water rights are property rights, an inherent incident of which is the right to transfer upon a showing that the change will not impair existing rights. Plains made this showing at the hearing; a discussion follows.

C. Hydrogeologic Investigation To Evaluate The Effects Of The Transfers Sought By The Applications.

1. Introduction

A hydrological evaluation of the effects of a transfer of water rights involves comparing the effects of the exercise and use of the water rights at their move-from locations to their exercise and use at the intended move-to locations. Such a comparison was made in Plains' hydrological evaluation.

(Tr. 82-83). If the hydrological evidence adduced from such an evaluation shows no resultant impairment to existing rights, the transfer is to be granted. § 72-12-7, *supra*.

Plains retained Dr. Gale K. Billings of Billings & Associates, Inc. to serve as project manager for the hydrological evaluation of the effects of the transfers sought by the Applications. (Tr. 18-19; 52). Dr. Billings utilized the expertise of Mr. Jeff Billings of his staff and Mr. Steven P. Larson of S.S. Papadopulos & Associates, Inc. to conduct this evaluation. (Tr. 19). Both Dr. Billings[14] and Mr. Larson[15], qualified as expert witnesses, (Tr. 51; 65) and, testified on Plains' behalf at the hearing. (Tr. 50-142, generally).

2. Structure Of The Investigation

The hydrogeologic investigation was structured upon a series of questions which the issue, whether the transfers applied for by Plains would impair existing rights, raises. (Tr. 20). These questions, as identified by Dr. Billings are:

1. What is the effect of the applied-for transfers with respect to ground-water conditions in the San Andres-Glorieta aquifer?

2. What is the effect of eliminating return flow to the alluvium at the existing irrigation sites?

3. What is the effect of the applied for transfers on the surface-water flow conditions in Bluewater Creek and the Rio San Jose?

4. What is the effect of the applied-for transfers on Ojo del Gallo and Horace Springs?

(Tr. 55; See Applicant's Exhibit 2, p.2)

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14. Applicant's Exhibit No. 1, admitted into evidence at Tr. 51, is the resume of Dr. Billings containing a statement of his education, employment record, publications, authored or co-authored by him, as well as a listing of some of his former clients. (Tr. 50).

15. Applicant's Exhibit No. 4, admitted into evidence at Tr. 65, is the resume of Mr. Larson containing a complete statement of his education, employment record, and publications, authored or co-authored by him. (Tr. 65).

The sufficiency of these areas of inquiry studied and answered by Plains' hydrological evaluation team was not challenged by the Protestant.

After framing these questions, Plains' hydrological evaluation team reviewed and reconsidered the requisite and available data previously utilized by them in a similar case (Tr. 53; 67), captioned "In The Matter Of The Applications Of Plains Electric Generation And Transmission Cooperative, Inc. For Permit To Change Location Of Well and Place And Purpose Of Use Of Underground Water, Nos. B-72 and B-72-S into 1605 and B-17, et al Comb.; B-43-H into 1605 and B-17, et al Comb.; B-43-F and B-43-I into 1605 and B-17, et al Comb.; B-87-C into 1605 and B-17, et al Comb.; and B-87-D into 1605 and B-17, et al Comb. ("B-72 and B-72-S case").[16] Finding this data suitable, Dr. Billings and Mr. Larson utilized it in their hydrological evaluations of these Applications. (Tr. 67). Additional data, which became available or was developed after the B-72 and B-72-S case was reviewed by Mr. Larson. (Tr. 53; 67-68). This additional data substantiated the hydrological findings made and relied upon by Plains' hydrological evaluation team in the B-72 and B-72-S case. (Tr. 69). The data reviewed was found sufficient to be relied upon by Plains' hydrological experts (Tr. 69), and was essentially unchallenged as to its accuracy and sufficiency by the Protestant's hydrological consultant, Mr. Balleau. (Tr. 144-181, generally).

Well and spring data, developed by Dr. Billings for the B-72 and B-72-S case, was utilized in this evaluation.[17] (Tr. 60; Applicant's Exhibit No. 3, Volumes 1 and 2). As in the B-72 and B-72-S case, the well and spring data base was assembled to locate in one document all published or public data

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16. The B-72 and B-72-S case was heard by the State Engineer's designated Hearing Examiner, Eluid Martinez, on March 20-21, 1984, in Grants, New Mexico. The Applications to Transfer at issue in this case were granted by the State Engineer on May 17, 1984 with permits subsequently issued.

17. Applicant's Exhibit No. 3, Vols. 1 and 2, were admitted into evidence at Tr. 62.

available on water rights in the Bluewater Basin. (Tr. 62; 63). Volume 1 of Applicant's Exhibit No. 3 contains a list of wells on which the United States Geological Survey ("USGS") monitors water levels, *albeit* irregularly. (Tr. 62). Volume 2 is the assemblage of all data on wells in the Bluewater Basin located or otherwise obtained by Plains and its hydrological consultants. (Tr. 62). This well and spring data base discloses within it, the source materials utilized in its compilation from which no wells or springs identified therein were omitted. (Tr. 63). Applicant's Exhibit No. 3 was not challenged or even questioned by the Protestant. (Tr. 144-181, generally).

Other data utilized by Dr. Billings and Mr. Larson may be generally characterized as scientific data, such as well (Tr. 53; 75-76) and laboratory tests (Tr. 79) and published literature and public records. (Tr. 123). These data were necessary to develop a needed understanding of the hydrogeological features of the Grants-Bluewater area, the area of study, as well as for the appropriate formulation of model parameters utilized in the numerical and related analyses by Mr. Larson (Tr. 67; 74) and for the data base utilized in the water quality analysis conducted by Dr. Billings. (Tr. 123).

The evaluation next utilized a numerical analysis by which the effects of the transfers on the hydrogeologic conditions of the Grants-Bluewater area, generally, at the end of 35 years and at the end of 100 years (Tr. 83), could be calculated. (Tr. 79). Thereafter, based upon these calculations and collected data, a water quality evaluation of the effects of these transfers was made. (Tr. 123-126). A written technical report was prepared by Plains' hydrological evaluation team, incorporating a description of its investigations, evaluations, calculations and conclusions. (Tr. 53).[18]

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18. The technical report, titled "Hydrogeologic Investigation To Evaluate The Effects Of Plains' Applications, File Numbers B-49-BB into B-44 and B-45 and B-45-X; B-1003-AB into B-44, B-45, and B-45-X; and 1605, B-44, B-45 and B-45-X-D" was admitted into evidence as Applicant's Exhibit No. 2. (Tr. 54).

From the impacts calculated by the numerical evaluation, Mr. Larson determined the effects of the transfers sought in the Applications on the wells located nearest to the existing places of use and the applied-for diversion points. (Tr. 89). Utilizing the numerical analysis' calculated impacts and the well and spring data assembled as Applicant's Exhibit No. 3, Dr. Billings compiled a listing of all water rights in the alluvium upon which the granting of the transfers sought in the Applications would be impacted by 9 feet or less, the maximum calculated impact in the alluvium. (Tr. 126-127).

3. Numerical And Related Analyses

Mr. Larson conducted the numerical and related quantitative analyses for the hydrological evaluation. (Tr. 56; 66). His first step was to acquire an understanding of the hydrologic and geologic conditions in the Grants-Bluewater area, (Tr. 66; Applicant's Exhibit No. 2, p. 2) an area which extends ten or fifteen miles either side of a line generally from about Bluewater Lake down through the Grants-Bluewater area. (Tr. 66; Applicant's Exhibit No. 2, p.1). His evaluation at this juncture included a study of the groundwater conditions, (Tr. 69-71; Applicant's Exhibit No. 2, pp.2-4); surface water conditions, (Tr. 71-72; Applicant's Exhibit No. 2, pp.4-9); as well as a consideration of the historical ground-water development in the Grants-Bluewater area. (Tr. 72-73; Applicant's Exhibit No. 2, p.9).

This numerical analysis necessitated a determination of the hydrologic properties and conditions of the San Andres-Glorieta aquifer, the Chinle aquifer and the alluvial aquifer ("aquifer units"). (Tr. 74). These properties and conditions included the physical extent of the aquifer units, their transmissive characteristics and storage properties as well as the hydraulic interrelationship existing between the various aquifer units. (Tr. 74). In addition, an understanding of the areas of the ground-water discharge points had to be developed. (Tr. 74).

The physical extent of the aquifer units, included in this analysis, is illustrated on Plate 2 of Applicant's Exhibit No. 2 and was described by Mr. Larson. (Tr. 74-75; Applicant's Exhibit No. 2, pp.10-11). The results of Mr. Larson's evaluation of the reported transmissive properties of the aquifer units, are illustrated in Figure 3 of Applicant's Exhibit No. 2 and were explained by Mr. Larson in testimony. (Tr. 75-76; Applicant's Exhibit No. 2, pp.12-13). His evaluation and its disclosures of the reported values of the storage properties of the aquifer units and the permeabilities of the Chinle and alluvial aquifers were also described by Mr. Larson. (Tr. 76-79; Applicant's Exhibit No. 2, pp.12-14).

The hydraulic characteristics of the aquifer units, used in the numerical analysis, generally the median value of the reported range of values may be summarized as follows:

Aquifer unit	Transmissivity, gpd/ft	Storage Coefficient, dimensionless	
		unconfined	confined
Alluvial	5,000	0.10	___
Chinle	5,000	___	5×10^{-6}
San Andres-Glorieta	360,000	0.05	3×10^{-4}

(Applicant's Exhibit No. 2, p.14). In the Chinle Formation a vertical permeability of 5×10^{-5} ft/d and an average thickness of 600 feet were utilized. For the alluvial aquifer, a mid-range value of 0.1 ft/d for vertical permeability and an average thickness of 100 feet was utilized.

A relationship for each ground-water discharge point, i.e., Ojo del Gallo, Horace Springs and Bluewater Canyon, was established describing the rate of change in ground-water discharge rate per unit change in ground-water level. (Tr. 80; Applicant's Exhibit No. 2, p.15).

A check was made of the model prepared for Plains against historical ground-water conditions in the Grants-Bluewater during the period from 1945

to 1955, a period for which data was available. (Tr. 80-82; Applicant's Exhibit No. 2, pp.15-16).[19] The results of this check indicated that the model boundaries and parameters, as assembled, were suitable for conducting the evaluation of the impacts resulting from Plains' applied-for transfers. (Tr. 82; Applicant's Exhibit No. 2, p.16).

Mr. Balleau, the protestant's hydrological expert, offered two concerns about this check of the model performed by Mr. Larson. First, Mr. Balleau questioned the use of 4300 afy decline at Ojo del Gallo and 3500 afy of decline at Bluewater Creek during the period from 1945 to 1955. (Tr. 160). Mr. Balleau thought higher decline figures should be utilized. Upon cross-examination, he conceded that his higher figures were derived using a time period longer than that utilized by Plains experts, (Tr. 174-175) and in response to questioning by counsel for the State Engineer admitted that a recalibration of the model using his decline figures for Ojo del Gallo and Bluewater Creek would not, in the end result, change significantly the effects calculated by Plains. (Tr. 179-180).

Mr. Balleau's second comment about this check was that at the end of the simulation, ten (10) feet of drawdown was occurring at the model boundary. (Tr. 151). However, as Mr. Larson testified, the model area was terminated at that location because the significant part of the aquifer relative to the problem being solved had been adequately addressed. (Tr. 182). Furthermore, the calculated effects for this historical period at the places of primary concern (i.e. Ojo del Gallo, Buewater Creek, and water-level declines in the Grants-Bluewater area) reproduce the observed conditions adequately. (Tr. 184). The situation was summarized by the Hearing Examiner when he

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19. This check was made as part of the B-72 and B-72-S case. It was unnecessary to re-do the check inasmuch as the same model, program and input were utilized in this calculation. (Tr. 82).

said, "So what you're telling me is that there has to be some reasonable educated determination of the boundary of the model. Otherwise, you model the entire continental United States to determine what the effects would be at any given location?" (Tr. 183-184). Mr. Larson's response to this statement was "[t]hat's correct." (Tr. 184).

Thereafter, an analysis utilizing a USGS published computer program (Trescott, 1975; Trescott and Larson, 1976) was made to evaluate the effects of the transfers applied for by Plains on the hydrogeologic conditions in the Grants-Bluewater area, (Tr. 79) including effects on the aquifer units, as well as at the ground-water discharge points at Ojo del Gallo, Horace Springs and Bluewater Canyon. The computer program was modified by Mr. Larson (Tr. 79; 98-99; Applicant's Exhibit No. 2, p.15), to allow for consideration of the ground-water discharge points at Ojo del Gallo, Horace Springs and Bluewater Canyon. (Tr. 80). The computed effects of the transfer were made for 35 years, (Tr. 83; Applicant's Exhibit No. 2, p.16) and for 100 years. (Tr. 83).[20]

Mr. Balleau objected to the model's boundaries included in Mr. Larson's analysis. (Tr. 150). The boundaries of the Plains' model shown on Plate 2 of Applicant's Exhibit No. 2, in the southwest coincide with the physical extent of the San Andres-Glorieta aquifer and in the northwest, the area of analysis was terminated six to eight miles downdip from the outcrop area. (Tr. 79-80; Applicant's Exhibit No. 2, p.11). This termination of the model boundary was reasonable in light of an absence of data demonstrating the

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20. The calculated effects on Ojo del Gallo and Bluewater Creek at the end of 100 years are shown on Applicant's Exhibit No. 5 admitted into evidence at Tr. 88. This exhibit is similar to Figure 4 of Applicant's Exhibit No. 2 which shows the calculated effects at the same discharge points at the end of 35 years.

existence of high aquifer transmissivity beyond this point. (Applicant's Exhibit No. 2, p.11). Moreover, as recognized in the Hearing Examiner's questioning, "...some, reasonable, educated determination of the boundary of a model" must be made. (Tr. 184). The check by Mr. Larson of the model's suitability confirmed the appropriateness of the model's boundaries. (Tr. 82).

Mr. Balleau's criticism was apparently based on the existence of a completion report on an exploratory well with supposed high transmissivity in the San Andres-Glorieta aquifer beyond the model boundaries. (Tr. 150).[21] In support of his criticism, Mr. Balleau could neither provide a transmissivity value for this well (Tr. 172), nor could he disclose the impact assessment of extending the model to include this well's location even if his criticism was assumed as accurate. (Tr. 172). Mr. Larson, however, could and did address such an impact assessment. (Tr. 183). Having assumed that Mr. Balleau's assertion of high transmissivity exists beyond Plains' model boundary, Mr. Larson explained that by extending the model boundary, the impact would be a lesser rise in the water levels of the San Andres-Glorieta aquifer than calculated by Plains' model, yet still water level increases would be seen. (Tr. 183). Accordingly, regardless whether correct, Mr. Balleau's fault-finding with the Plains' model's boundary is to no avail. The boundaries of the model used to evaluate the effects of the transfers here at issue were sufficient. (Tr. 184).

The transfers, which were modeled, considered the termination of diversion from the San Andres-Glorieta aquifer at existing pumping locations in the amount of 477.96 afy; the termination of return flow to the alluvial in the

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21. This completion report was not produced by the Protestant to Plains until 5 days prior to the hearing scheduled and held on these Applications; such production was pursuant to the State Engineer's Order of October 19, 1984, compelling the Protestant to comply with particular discovery requests by Plains.

amount of 234.20 afy at locations of existing use and the initiation of diversion from the San Andres-Glorieta aquifer in the amount of 243.76 afy at the three applied-for pumping locations (Tr. 83; Applicant's Exhibit No. 2, p.16, Table 1, Plate 1).

Overall, the cumulative effects of the transfers are negligible. The computed water levels effects, due to the transfers, in the alluvial aquifer, where return flow, by the transfers, will be eliminated, are reflected on Plate 3 of Applicant's Exhibit No. 2, with a maximum computed decline, at the end of 35 years of less than 9 feet in the vicinity of the existing irrigated locations. (Tr. 84; Applicant's Exhibit No. 2, p.16). Water level increases of less than 0.2 feet are computed to occur in the alluvial aquifer to the northwest and southeast of the zero ("0") water level decline contours shown on Plate 3 of Applicant's Exhibit No. 2. (Tr. 84).

In the San Andres-Glorieta aquifer, ground-water levels will rise slightly about 0.2 feet or less, over most of the Grants-Bluewater area, due to the transfers. (Tr. 83; Applicant's Exhibit No. 2, p.16).

The effects on ground-water discharge, computed to occur at the ground-water discharge points, Ojo del Gallo and Bluewater Canyon, due to the transfers, are shown on Figure 4 of Applicant's Exhibit No. 2. Ground-water discharge at Ojo del Gallo will be increased by 22 afy at the end of 35 years. (Tr. 84; Applicant's Exhibit No. 2, p.17, Figure 4). Along Bluewater Canyon, ground-water discharge will be increased by 26 afy at the end of 35 years. (Applicant's Exhibit No. 2, p.17, Figure 4). The effects are temporary increases at both locations. (Tr. 84-85; Applicant's Exhibit No. 2, pp.16-17).

The maximum effect at the ground-water discharge point, Horace Springs, not reflected on Figure 4 of Applicant's Exhibit No. 6, due to its insignificant magnitude, (Tr. 85) is computed as a temporary increase in

discharge less than 0.1 afy at the end of the 35-year simulation period. (Tr. 85; Applicant's Exhibit No. 2, p.17). Mr. Balleau specifically stated his agreement with this conclusion. (Tr. 156).

To the extent that ground-water discharge points in Bluewater Canyon, at Ojo del Gallo and at Horace Springs contribute to surface-water flow in Bluewater Creek and the Rio San Jose, their flows would be higher, due to the transfers, though only slightly and temporarily, due to the increases resultant from the transfers at the ground-water discharge points. (Applicant's Exhibit No. 2, p.17).

Considering the Applications individually, Mr. Larson described the impact of the transfer sought by each Application. (Tr. 86-87). In general, the slight decline projected to occur in the alluvium at the end of 35 years is almost totally related to the 1605, B-44, B-45 and B-45-X-D Water Right in that the return flow associated with this right is centered on the alluvium and is to be terminated under this transfer. (Tr. 86). The transfer contemplated by this Application will, however, have a net positive effect on the San Andres-Glorieta aquifer because it represents a reduction in the withdrawal from this aquifer. (Tr. 87).

As to the transfer of the B-49-BB Water Right, considered individually, there would be a net positive effect because both return flow and the termination of diversion occur generally in the San Andres-Glorieta aquifer, with little or no alluvium present. (Tr. 86). The termination of return flow associated with this right's transfer is less than the termination of diversion, thereby causing a net positive effect, although small, due to the size of this particular transfer. (Tr. 86-87).

As to the transfer of the B-1003-AB Water Right, some small declines, probably less than 1 foot, would occur in the alluvium in the vicinity of the existing return flow areas as a result of this transfer. (Tr. 87).

At the end of 100 years after the transfers sought by the Applications, Mr. Larson advises that the effects (water level rises) at Bluewater Creek and at Ojo del Gallo continue to decline. (Tr. 88; Applicant's Exhibit No. 5). In the alluvial, water levels associated with the 1605, B-44, B-45 and B-45-X-D Water Right return flow areas decline an additional one foot at the end of 100 years over that decline projected to occur at the end of 35 years, i.e., to a 9.5 feet maximum computed decline. (Tr. 88).

The only calculated declines after 35 years, resultant from the transfers, are in the alluvial aquifer, where return flow will be eliminated. These effects, however, are negligible. At the end of 100 years the only calculated decline resultant from the transfer is likewise in the alluvial aquifer. Only one foot additional decline in the alluvial aquifer is realized at the end of 100 years over that realized at the end of 35 years. These effects are likewise negligible. The other effects calculated to result from the transfers are positive, i.e., these effects are increases in levels, discharges or flows.

Although his own analysis, presented in Protestant's Exhibit No. 2, was not of the transfers sought by the Applications, Mr. Balleau, upon cross-examination admitted that the transfers properly evaluated would cause only "a negligible base line (sic-basin) effect." (Tr. 176-179).

Mr. Balleau's testimony is perplexing. First, he states a position inconsistent with the New Mexico law relating to the transfer of water rights. Second, his testimony does not describe any analysis of the transfers at issue here. Lastly, and most preposterous, is his apparent suggestion that Plains be treated differently than other water right owners by not being allowed to transfer its water right. Mr. Balleau's position is that the water rights sought to be transferred have not been used for certain periods in the past. He does not deny the right of the predecessor owner of the right to use the water right at its present location. (Tr. 164). But he does not want the

water right transferred for use as applied-for by Plains. Yet, he admits that whether the water right is diverted and used at its existing location for its existing use or at the applied-for locations of diversion and use by Plains, the effect on the hydrological system is the same. (Tr. 165-166). Mr. Balleau offers to "assume the risk" of whether the water right will be used at its existing location. (Tr. 166). Mr. Balleau apparently realizes, and, in fact, admits that the transfers sought by Plains will have no net basin effects. (Tr. 176-179). Mr. Balleau's position, then, against allowing the transfers, is without support and is contrary to the law. *See, Laggenegger v. Carlsbad Irrigation District, supra,* which provides that the transfer of a water right is an inherent incident of its status as a property right. Mr. Balleau's argument would unjustifiably deny the exercise of this inherent incident, thereby amounting to confiscation by the Bureau of Indian Affairs. Common sense does not support Mr. Balleau's position either. If it makes no difference on the hydrological system whether the right is produced at one location or another, as Mr. Balleau admits is the case, then he is either "grasping for straws", attempting to seek legislative changes improperly through the SEO or is necessarily attempting to confuse and confound the sole issue of whether the applied-for transfers will impair existing rights.

4. Impact of Transfers on the "Closest Wells"

Mr. Larson determined the impact of the transfers at issue here on the wells located closest to the applied-for diversion locations and the existing return flow areas. (Tr. 89). The locations of these wells were identified by Plains' staff members, Mr. Fred Allen and Mr. Dick Toth, both registered

land surveyors (Tr. 95), and provided to Mr. Larson. (Tr. 92).[22]

The impacts at these wells at the end of 35 years due to the transfers were calculated to be as follows: (References to locations are set out as they appear on Applicant's Exhibit No. 6).

1. As to Location A-1, the well closest to the B-1003-AB Water Right return flow area, the calculated impact is a drawdown of .16 feet. (Tr. 89-90);

2. As to Location A-2, the well closest to the B-49-BB Water Right return flow area, the calculated impact will be positive. (Tr. 90);

3. As to Location A-3 and A-4, the wells closest to the B-44, B-45 and B-45-X Water Right return flow area, the calculated impacts are water level declines of 7.3 feet and 8.3 feet, respectively (Tr. 90);[23] and

4. As to Locations S-1 and S-2, the wells closest to the applied-for diversion locations, i.e., Wells B-44, B-45 and B-45-X, the calculated impact will be a water level increase of slightly less than .2 feet. (Tr. 91).

5. Water Quality Analysis

Dr. Billings, in his evaluation of the potential water quality effects resultant from the transfers sought by Plains' Applications, (see generally, Applicant's Exhibit No. 2, pp.17-18), explained that the characteristics of the aquifer units are such that a change in water quality can be evaluated by a

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22. Applicant's Exhibit No. 6 admitted into evidence at Tr. 92, a pertinent portion of Plate 1 of Applicant's Exhibit No. 2, reflects a plotting of the existing diversion areas, new diversion areas and existing return flow areas of the water rights which are the subject of this hearing as well as a plotting of the wells closest to these areas. (Tr. 89).

23. Dr. Billings estimated the average depth of water in the area of the drawdown around the nearest alluvial wells to be "20 to 30 feet, max, I would say" depending on the particular location in the alluvium relative to the Rio San Jose and the depth of the average well in this area to be "on the order of 60 to 70 feet...depending on the subcrop of the lower units." (Tr. 127).

review of concentrations of total dissolved solids (TDS). (Tr. 123). Accordingly, he plotted the ground-water quality data available on concentrations of TDS. This data, as plotted, is illustrated on Plates 4, 5 and 6, of Applicant's Exhibit No. 2, one for each of the aquifer units, i.e., in the Chinle, San Andres-Glorieta and Alluvium, respectively, and shows the water quality to be roughly similar in the aquifers, near the applied-for diversion points. (Tr. 124; Applicant's Exhibit No. 2, p.18). Dr. Billings characterized this water quality to be "good, potable water." (Tr. 125). Comparing these data plots to the generally acceptable water quality of the San Andres-Glorieta aquifer, evidenced on Figures 5, 6, 7 and 8 of Applicant's Exhibit No. 2, Dr. Billings concluded that should water be drawn to Plains' applied-for diversion points from further out in the San Andres-Glorieta aquifer, from the Chinle or from the alluvial, the resultant water quality would be unchanged (Applicant's Exhibit No. 2, p.18). Although no data is available on the Yeso formation which underlies the San Andres-Glorieta aquifer, Dr. Billings assumed, on various grounds, that its water quality was poor. (Tr. 124-125). Nevertheless, due to the highly transmissive properties of the San Andres-Glorieta aquifer and the small pumping stress involved in the transfers, Dr. Billings concluded that the vertical movement of water, by pumping, into the applied-for diversion points is highly unlikely. (Tr. 125-126; Applicant's Exhibit No. 2, p.18).

6. Conclusions of Investigation

Briefly and generally stated, the conclusions reached by Plains' expert hydrological evaluation team, after exceedingly extensive, thorough and appropriate investigations and calculations, are:

> Ground-water levels in the San Andres-Glorieta aquifer will be higher by about 0.2 feet in most of the Grants-Bluewater area at the end of 35 years.

Ground-water levels in the alluvial aquifer will be lower by less than 9 feet in the vicinity of the existing irrigated area at the end of 35 years.

Ground-water discharge at Ojo del Gallo will be increased by 22 acre feet per year at the end of 35 years.

Ground-water discharge along Bluewater Canyon will be increased by 26 acre-feet per year at the end of 35 years.

No significant changes in ground-water quality are anticipated as a result of the applied-for transfers.

The applied-for transfers will not affect the exercise of other water users' rights. (Tr. 57-58; Applicant's Exhibit No. 2, pp.57-58).

D. Impact Assessment Of The Effects Of The Transfer

Dr. Billings analyzed the impacts on existing water users resultant from the computed effects of the transfers. (Tr. 58; 126). He compiled from the data base, contained in Applicant's Exhibit No. 3, a list of the wells in the alluvium located in the areas of terminated return flow (move-from areas) and in the areas of the calculated drawdown contours in the alluvial aquifer, as shown on Plate 3, Applicant's Exhibit No. 2. This well listing was designated as Applicant's Exhibit No. 8 and entitled "Well Owners Listed In Move-From Location (B-49-BB, B-1003-AB, B-44 and B-45-X-D): Drawdowns Calculated At Less-Than Nine Feet." (Tr. 126).[24] Based upon the nature of the alluvial aquifer, its saturated thickness, its production capability and the estimated drawdown of less and often considerably less than 9 feet, Dr. Billings concluded that the effect of the transfers would not interfere with the physical operation of any existing rights. (Tr. 128).

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24. Applicant's Exhibit No. 8 was admitted into evidence at Tr. 126.

Inasmuch as all other projected effects are increases or rises, in water levels, discharges or flows, it cannot seriously be contended that such positive effects could be construed to injure any existing water right.

As to the water quality effects of the transfer sought by Plains, Dr. Billings concluded that no water quality changes will occur which could affect the use of existing rights. (Tr. 126; Applicant's Exhibit No. 2, p.18).

Under the law, a finding of impairment is dependent upon the facts of each case. *City of Roswell v. Reynolds, supra; City of Roswell v. Berry,* 80 N.M. 110, 452 P.2d 179 (1969); *Mathers v. Texaco, Inc.,*77 N.M. 239, 421 P.2d 771 (1966) *reh. denied* (1967); *Heine v. Reynolds, supra.* Although a change in the hydrological system is inherent in the granting of an Application to Transfer, change alone is not impairment of the rights of others. *Laggenegger v. Carlsbad Irrigation District, supra.*

A negligible effect, found to be the impact in *City of Roswell v. Berry, supra* was defined as an effect of such little consequence that it should be disregarded and as such was not impairment. The effect on the alluvial aquifer resultant from Plains' transfers sought here, may easily be characterized as negligible due to the nature of the aquifers involved and the magnitude of the pumping stress sought to be transferred and the absence of any effect on any existing rights which could interfere with its use. Thus, this effect is not impairment of existing rights.

Impairment may be understood, in general terms, to be an injurious effect, *Coldwater Cattle Co. v. Portales Valley Project, Inc.,* 78 N.M. 41, 428 P.2d 15 (1967). The impact of Plains' transfers, as sought in this hearing, will not be detrimental nor injurious to existing rights as to their exercise and/or use. The impact of the transfers sought by Plains on existing rights will neither result in any practicable reduction in available water to existing users nor in any deterioration in the water quality of the available water.

CONCLUSION

As is evident, the water rights sought to be transferred by the Applications are existing rights, which may be transferred. As is equally evident, Plains' burden of proof to show no impairment to existing rights resultant from the transfers has been met. The hydrological evidence presented by Plains, most of which was unchallenged by the Protestant, all of which was uncontroverted by the Protestant, and the results of which, in essence, were admitted by the Protestant's hydrological expert, overwhelmingly supports a finding of non-impairment resultant from the transfers sought by Plains.

Upon a showing of non-impairment, an Application to Transfer is to be granted. Plains has proved non-impairment; its Applications should be granted.

Respectfully submitted,

STEPHENSON, CARPENTER,
CROUT & OLMSTED

By _____
Sunny J. Nixon

By _____
Patricia J. Turner

P.O. Box 669
Santa Fe, New Mexico 87504-0669
(505) 982-4611

CERTIFICATE OF SERVICE

I hereby certify that I caused to be hand-delivered a copy of the foregoing Brief of the Applicant, Plains Electric Generation and Transmission Cooperative, Inc., to Mr. Eluid Martinez and Mr. Eric Biggs of the Office of the New Mexico State Engineer, and that I caused to be mailed, first class, postage prepaid, a copy of the foregoing Brief to Mr. Herbert A. Becker, Assistant U.S. Attorney, this 6th day of December, 1984.